

INDONESIA

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In 2001, the gross domestic product (GDP) growth rate of the Indonesian economy was 3.3%, which was considerably lower than the 4.8% of 2000. Except for the mining and quarrying sector, other industrial sectors posted a positive growth. The mining and quarrying sector accounted for 13.6% of the GDP, 1,491.0 trillion rupiahs (\$145 billion). The per capita GDP based on 2001 prices was 7.2 million rupiahs (\$702) (Bank Indonesia, 2002, p. 34; Central Bureau of Statistics, 2002). Besides the deterioration of the world economy, the slow improvement of loan and corporate restructuring in Indonesia also contributed to the decline. Economic growth was pushed by private and government consumption expenditures. Private consumption rose by 6% in 2001, which was the sharpest rise since 1997. Export trade, which was the engine of growth in 2000, declined by 9.3% in 2001 compared with 16.1% growth in 2000. The low level of investment, an increase of only 2.1%, was caused by political stabilities, law enforcement uncertainties, and investment financing constraint caused by the slow recovery of banking. Bank Indonesia, the country's central bank, had encouraged the banking sector to provide more loans to sectors considered as having relatively low risk, such as export loans and loans for small- to medium-sized companies. In 2001, the amount of approved foreign direct investment declined by 41% to \$880 million. Foreign direct investment was very important to Indonesia, both for job creation and as a source of development capital for the country's infrastructure system, particularly electricity and telecommunications. Without a considerable amount of foreign direct investment, the country's economic recovery process would not be sustainable (Bank Indonesia, 2002, p. 30; Ministry of Industry and Trade, 2002a¹).

Government Policies and Programs

In the fourth one-quarter of 2001, the Indonesian Parliament passed and the President signed the oil and gas law No. 22/2001 to replace law No. 44/1961 on oil and gas and law No. 8/1971 regarding Pertamina. The authority over oil and gas exploration and exploitation would be transferred from Pertamina to the Government, and the upstream and downstream activities would be opened for competition. A regulating board would be set up to oversee the implementation of the new oil and gas law for the upstream sector. Contracts would be signed between the Government, represented by the Executive Board, and domestic and/or foreign companies. Pertamina would become a limited liability company 2 years after implementation of the new oil and gas law (Petrominer, 2001g).

Indonesia is divided into 32 Provinces, of which 3 are special

¹References that include a section twist (§) are found in the Internet References Cited section.

provincial territories—Nangroe Aceh Darussalam, Yogyakarta Special Territory, and Jakarta Metropolitan Special Territory. Each Province is divided into regency, city, or big city. Regency usually includes a capital town and surrounding area as well as a great area of hinterlands. Regency and city have the same level of governmental hierarchy. In 1999, the House of Representatives passed two laws—law No. 22/1999, Regional Political Autonomy, and law No. 25/1999, Fiscal Decentralization. Both laws went into effect on January 1, 2001. Mining companies were confused about the connection between law No. 22/1999 and law No. 11/1967 on general mining. The major problem was that the two laws were contradictory. Law No. 11/1967 was centralistic, and law No. 22/1999 was decentralistic; the legislation gave autonomy to Indonesia's 340 local governments, 268 regencies, and 72 cities. Under the regional autonomy regime, there was a lack of a legal and comprehensive mining policy. In addition, many foreign investors were concerned about political stability in the country and had deferred new investments (Mining Journal, 2001c).

At yearend 2001, the investment climate in the Indonesian mining sector remained cloudy. At least 25 foreign investors were reluctant to have their contracts of work (COWs) signed by a regional government, as required by the new law No. 22/1999, which stated that the right to mine in a certain area should be approved first by the regent or the governor and no longer by the Central Government. Investors believed that a contract signed by a regent or a governor, who did not represent the country, was not valid for the purpose of raising project finances in overseas banks because, according to the Indonesian Constitution, mineral rights were held by the state and not by the regency. As many as 150 mining projects, representing about \$10 billion in capital investment, were on hold temporarily. Since 1998, investment in the mining sector has continued to decline. Excluding active operating mining companies, new exploration and mining projects in the eastern part of Indonesia have been halted because law No. 44/1999 prohibited opencast mining in forest areas (Petrominer, 2002j). In 2001, mining investment was \$43 million (U.S. Embassy, Jakarta, Indonesia, 2002b§).

The Government made a strong effort to persuade 14 domestic and foreign mining companies to start their project operations that have been approved in principle since 1998. Because mining law No. 11/1967 could no longer give a protecting umbrella to general mining operations in Indonesia, the House of Representatives was reluctant to approve any new mining operations. The new draft mining bill to replace law No. 11/1967, which would provide legal protection on mining right and clarify law No. 22/1999 and law No. 44/1999, was still under deliberation in the executive offices at yearend. The draft mining bill includes the issue of sustainable development of mining areas by providing a high level of environmental

protection and incorporating a better recognition of human and land rights for local communities (Petrominer, 2002e).

Three coal mining companies—PT Rio Tinto Minerals Development Co. Ltd. & RTZ Nominees Ltd., which planned to develop coal deposits in Pasir Regency, East Kalimantan, and Kota Baru Regency, South Kalimantan; BHP Mineral International Exp. Inc. in Bengkulu Utara Regency, Bengkulu; and PT Excel Equities International PTY Ltd. in Bulungan Regency, East Kalimantan—withdrew from COW negotiations. PT Aneka Tambang's (PT Antam) foreign partner, BHP Billiton Plc Ltd., postponed nickel mining in Gag Island, and its Japanese partner suspended the bauxite project in West Kalimantan. These two projects could amount to as much as \$1.5 billion (Petrominer, 2002a). The Government recognized that minimizing some of the obstacles facing the mining investment required sector policy restructuring and proposed to issue the seventh generation contract of work plus (COW Plus) to integrate the authorities of the Central Government and regional governments while waiting for the new mining bill to be approved. Under the proposed COW Plus, the Central Government would consult with the regencies before sending contracts to the House of Representatives.

The Indonesian tax system can be categorized into two types—a central tax and a local tax. Central taxes are administrated by the Ministry of Finance, while local taxes fall under the local governments. Since 1983, Indonesia has undergone several tax reforms, and the latest tax reform was initiated in 2000 and took effect on January 1, 2001. The 2000 amendment had no substantial effect on the taxation of the mining industry because the taxation of the mining sector is governed by COWs for general mining, the Coal COW (CCOW) for coal, or oil and gas contracts, which are signed by Pertamina and oil companies. Each type of contract is regulated by a different law. There have been seven generations of COW issued. The first and second generation COWs were governed by income tax law 1925, and other generations were implemented under tax law 10/1994. The legislation that will govern the eighth generation COWs is under negotiation (Poernomo, 2001).

According to law No. 25/1999, the Central Government receives 20%, and the regional government gets 80% of the tax revenues from the mining sector. The 80% portion of the regional government revenue will be further distributed (16% to the Province and 64% to the producing city). Royalties will also be distributed according to the 20%/80% formula; however, while the Province gets 16%, the producing city receives a 32% share and other cities within the Province get 32%. Since the implementation of law No. 25/1999, several Provincial Governments found that funds allocation to their Provinces had declined. The absence of funding drove Provincial Governments to seek alternative revenue sources from mining companies. Hundreds of ordinances were issued imposing additional taxes, which increased mining companies operation costs between 6% and 10%. Law No. 34/2000 expanded the range of taxable commodities to include previously exempted heavy equipment used in coal mining. Some local governments required coal producers to pay 250 rupiah (\$0.24) per metric ton of coal mined. The Indonesian Chamber of Commerce discovered that more than 1,500 new

local government regulations were issued, which caused confusion for the business community (Petrominer, 2001h). The Sumbawa Regency for the West Nusa Tenggara Province protested to the Government that the royalty fund, which the Regency received in 2001, was too small in comparison with the physical impact of the mining operations on the environment and social and cultural life in Sumbawa. The Regency suggested that the Government should reconsider the COW process and amend law No. 25/1999 (Petrominer, 2002g).

In Indonesia, foreign mining companies working under first through fourth generations of COWs were required to divest their shares up to 51% at the end of their 10th year of operation but there was no divestment obligation in the fifth and later generations. Companies that were covered under the first and second generation contracts have completed their divestment except for PT Freeport Indonesia; its first generation contract had been changed to a fifth generation contract work in 1995. The divestment program for the first and second generations was much looser compared with the third and fourth generations. Under the third and fourth generations of COWs, when entering the fifth year of production, the share divestment should be 15%, then 8%, 7%, 7%, 7% and 7% per year up to a total of 51%. The price offered to Indonesian participants should be based on the agreement between the Government and the company concerned. More than 10 companies were obligated to divest their shares in 2001 (Petrominer, 2002i).

The Directorate of Geology and Mineral Resources of the Ministry of Energy and Mineral Resources signed a memorandum of understanding with Korean Resources Corp. to develop Indonesia's energy and mineral resources information. In September 2001, the Directorate also signed an agreement with the Metal Mining Agency of Japan to explore and to assess the mineral potential in the East Java area (Jakarta Post, 2002b§; Japan International Cooperation Agency, 2002§).

Trade

Indonesia has liberalized its trade regime and taken a number of important steps to reduce protectionism. The Government has issued a series of deregulation packages intended to encourage foreign and domestic private investments. Despite the economic crisis of the past several years, the country has maintained its long-term tariff liberalization policy. Indonesian tariff rates range from 5% to 30%, except for alcoholic beverages and motor vehicles. The Government also liberated its distribution system, including ending some restrictions on trade in the domestic market, such as restrictive marketing arrangements for cement, paper, and plywood, and allowing foreign investment in wholesale and large-scale retail trade. On January 1, 2002, Indonesia will implement fully the final stage of its commitments under the ASEAN Free Trade Area (Afta) agreement.

Indonesian total trade decreased by 8.7% to \$87.3 billion in 2001. The values of imports and exports declined in 2001, and the trade surplus decreased to \$25.4 billion. In 2001, exports decreased by 9.3% to \$56.3 billion, and imports also decreased by 7.6% to \$31.0 billion. The value of nonoil and gas exports was \$43.7 billion and represented a decreased of \$4.1 billion from that of 2000. For the mining sector, the total export value

for Indonesian minerals, which excluded oil and gas, was \$3.0 billion; copper ore and coal accounted for 93%. Other major export mineral commodities were bauxite, dimension stone, nickel ore, and sand. Imports of capital goods and value-added manufacturing products decreased sharply in 2001. Imports of iron and steel and nonferrous metals declined by more than 23% to \$1.2 billion and by 12% to 546.1 million, respectively. In 2001, the top five sources of Indonesian imports were the United States, Japan, Singapore, Malaysia, and China (Ministry of Industry and Trade, 2002b§).

Commodity Review

Metals

Aluminum.—Inadequate power generating capacity at Lake Toba in Sumatra forced PT Indonesia Asahan Aluminium's smelter to operate below its designed capacity in 2001. The company was exploring alternate sources to secure an alternative power supply for the smelter. The company was considering building a 180-million-watt hydroelectric powerplant near the smelter. The construction of a new powerplant depended on the company's ability to secure financing as well as approval from the Government. Another alternative considered was to use the hydroelectric power supply from the nearby Renum River; however, this plan required solving a lot of technical and environmental problems (Metal Bulletin, 2001d).

PT Antam completed its feasibility study, environmental impact analysis, and other mandated studies for the Tayan chemical-grade alumina project in Tayan, West Kalimantan. The project included changing the status of its 13,000-hectare area from exploration to exploitation and constructing a bauxite mine and 300,000-metric-ton-per-year (t/yr) chemical alumina plant. The mine was designed to produce 5 million metric tons per year (Mt/yr) of bauxite. Total resources in the area were 116 million metric tons (Mt). Mine life is anticipated to be 20 years. The construction of the alumina plant included a washing plant, Bayer plant, and calcining plant. Construction was expected to take 19 months. PT Antam has signed offtake agreements with Japanese aluminum producers. Two international companies would assist Antam on the refining process of the alumina plant. The Tayan bauxite mine will replace the bauxite mine in Bintan, Riau, which will be closed down in 2003 because of depleted reserves. The company also considered building a metallurgical alumina refinery. The exploration of the Kendawangan bauxite prospect in West Kalimantan continued in 2001 (Petrominer, 2001a).

Copper.—The Indonesian Environmental and Natural Resources Non-Governmental Forum filed a lawsuit in Jakarta against PT Freeport Indonesia Co. for environmental mismanagement and misinformation in the Wanagon Basin, next to Freeport's Grasberg Copper Mine in Irian Jaya Province. On May 4, 2000, a period of excess rainfall caused a slippage of the mine waste stockpile in the Wanagon Basin into the Wanagon Valley; four contract employees in the area were unaccounted for. The Environment Impact Management Agency stated on June 12, 18, and 19, 2000, that the tonnage of

overburden at the southern end of the disposal site at Wanagon Lake was about 80,000 metric tons per day (t/d), which exceeded the limit of 50,000 t/d. In August 2001, the Council of Judges at the South Jakarta District Court ruled that Freeport provided misleading information about the accident. Freeport planned to appeal to the High Court (Metal Bulletin, 2001b; Mining Journal, 2001b; Petrominer, 2001k). In 2001, Freeport maintained its mill throughput rate of 240,000 t/d. About one-half of concentrates [723,100 metric tons (t) of copper and 108 t of gold] from the Grasberg mine was shipped to the Gresik Smelter, and the remainder was exported to Freeport's Atlantic smelter in Spain and other Asian countries. Freeport continued exploring in the block A area immediately surrounding the Grasberg mining complex and the 2.3-million-acre (92.9-million-hectare) block B area. Freeport contracted the Eastern Mining and Nabire Bakti Mining to explore the block B area. Field exploration at block A was suspended because of law No. 41/1999. The Gresik Smelter of PT Smelting Co., in which Freeport had 25% equity, operated at its full design capacity in 2001. Cathodes from the smelter were sold mainly to Southeast Asian countries. Copper metal demand is expected to increase in domestic markets in the next several years. PT Smelting planned to expand its cathode production capacity to 240,000 t/yr from 210,000 t/yr by adding more electrolytic cells and/or increasing current density in its refinery (Goto and Handogo, 2001).

The Puncak Jaya Regency accused Freeport's underground mining activities of having penetrated into the Puncak Jaya Regency. Freeport's COW area is in the Mimika Regency, which is about 6 kilometers from the Lorentz National Park in Puncak Jaya Regency. The mining activities were site as the cause of melting of the Erstberg glaciers in the Puncak Jaya Regency. Freeport denied the accusation and stated that the melting was caused by global warming. The regional government ordered Freeport to submit the company survey on gold potential results from 1994 to 1996 in the districts of Beoga, Ilaga, and Ilue in Puncak Jaya. The penetration of the territory was a very sensitive issue under the law No. 25/1999 because it connected with the royalty rights of the Regency, the compensation to be paid, and traditional land rights used by Freeport (Petrominer, 2001c).

In 2001, the Batu Hijau copper and gold mine in Sumbawa Island, West Nusa Tenggara Province, increased its mining rate to 550,000 t/d and mill throughput rate to 142,000 t/d as a result of increased efficiency, dry weather, and shorter haul distances. The mill produced concentrates containing 298,257 t of copper and 16.6 t of gold in 2001, a 26% increase from that of 2000. Owing to a lower (0.61%) copper grade, the mill recovery rate decreased to 85% in the fourth one-quarter 2001 and was expected to continue in the first one-half of 2002. In 2001, the average input copper grade was 0.75%, a 0.03% higher than that of 2000, and the average recovery rate also improved at 89.2% compared with 87.5% in 2000 (Newmont Mining Corp., 2002, p. 6, 14).

Gold.—PT Kelian Equatorial Mining (PT KEM) [a joint venture between Rio Tinto Ltd. of the United Kingdom (90%) and PT Harita Jayaraya of Indonesia (10%)] planned to cease its gold operation in Kelian, West Kutai, East Kalimantan in 2004.

Owing to exhausted resources, PT KEM intended to close the mine in 2003. In 2001, the mill processed 7.8 Mt of ore; this amount was expected to decline to 5.8 Mt when operations ceased. The company would produce about 12 t of gold and 10 t of silver in its remaining years. PT KEM had allocated about \$45 million for the mine closure program. Representatives from local communities and international organizations have assisted the company setup a committee to handle affairs related to the impact of the mine closure on the local community, the environment, and the West Kutai region (Petrominer, 2001f).

Since the economic crisis in 1997, illegal mining has increased dramatically. Hundreds of people from local communities, East Kalimantan, and Java panned for gold in Kelian River, where PT KEM operated nearby. These alluvial miners came with pumps and hoses. Gold panners were infringing upon the PT KEM contract area and creating security, safety, as well as environment problems for the company. Even though PT KEM has paid all sorts of compensation to those affected by its mining development, some of them requested more. In July 2001, the number of the alluvial miners within PT KEM's contract area increased to 500; these miners used about 70 pumps (Petrominer, 2001d).

Owing to a depletion of ore reserves, PT Newmont planned to cease the Minahasa operation in northern Sulawesi in 2003; the mine, which began production in 1996, would continue mining until the end of 2001 with concentrate production through 2003. The company negotiated with the Government to free itself from the COW that would expire in 2026. The company decided not to attempt to develop the nearby Lobongan gold deposit because of excessive illegal mining in the region. Workers protested after hearing the company's plan, and production stopped for a while. The mine produced between 20 and 25 kilograms per day of gold (Petrominer, 2001e).

Apolo Gold Inc. of the United States signed a farm-in agreement with PT Metro Astatama of Indonesia to explore gold in the region of Bengkunt, West Lampung, Sumatra. The 12,280-hectare area is held by PT Metro. Apolo will operate, manage, test, and explore the area and will prepare a feasibility report for developing the property. Apolo will receive 60% of the net profit. PT Metro will provide adequate funds for equipment within 18 months after completion of the feasibility report. Otherwise, PT Metro's share will be reduced from 40% to 20%. Initial testing showed samples averaging 19.78 grams per metric ton (g/t) gold and 1,096 g/t silver. Extensive quartz breccia vein mineralization in the property indicated a potential recoverable gold and silver resource of more than 1 million ounces (30,000 kilograms) (Apolo Gold Inc., 2002§).

Iron and Steel.—Three leading steel producers from Indonesia, Malaysia, and Thailand agreed to form a strategic alliance. PT Krakatau Steel of Indonesia, Megasteel of Malaysia, and Sahaviriya Steel Industries of Thailand signed a memorandum of understanding to cooperate in market development, exchange of technical information, procurement of raw materials, and other services. Afta was scheduled to take effect in 2003 and would reduce tariff rates to a maximum of 5% and would open the regional market for cross-border trading. The three-company alliance is designed to avoid head on competition when the Afta agreement becomes effective

(Metal Bulletin, 2002c).

Owing to depressed market conditions, the privatization of PT Krakatau was postponed until 2002. The proposed \$300 million modernization plan for the Cilegon plant, including the upgrade of slab and billet facilities and installation of a new direct-reduction plant was also delayed for financial reasons. The United States and European Union dumping charges filed against PT Krakatau's steel products had shut down the export market for the company. Facing weak domestic demand, the company reduced its output (Metal Bulletin, 2001a).

Nickel.—PT Antam selected Tessag INA GmbH of Germany as the contractor to build its third ferronickel plant (FeNi III). The new plant will be located next to the company's two other smelters near Polmalaa, Sulawesi, and will increase Antam's output to 26,000 t/yr of contained nickel. The estimated cost for the new plant was \$250 million. Construction was scheduled to start in mid-2001. Owing to the delay in financial approval, Antam decided to postpone the construction until 2002. PT Antam will fund 30% of the project, while the remaining will be financed through bank loans. Pohang Iron and Steel Co. (POSCO) of the Republic of Korea has agreed to purchase 7,000 t/yr of ferronickel from PT Antam's new plant for 10 years, and a German stainless steel company has signed an agreement to take 8,000 t/yr for 10 years. The new plant will be equipped with copper cooling smelting technology, which will improve output capacity by allowing throughput of higher grade ore. An explosion at PT Antam's Ferronickel I processing plant caused severe furnace damage, and forced Antam to ship its ore to Pacific Metals Co. Ltd. (Pamco) in Japan for processing. Processed ferronickel matte from Pamco was shipped to Yieh United of Taiwan, POSCO, and Nissin Steel and Nikinko of Japan (Petrominer, 2001b).

PT Gag Nickel is the joint venture between BHP Asia Pacific Nickel Pty. Ltd. (a joint venture of BHP Billiton and Falconbridge Ltd. of Canada) and Antam to develop the nickel deposit project on Gag Island. BHP Billiton and Falconbridge each have 37.5% equity interest, and Antam holds the balance. Because law No. 41/1999 reclassified the area as protected forest, the project has been on care and maintenance since June 2000. Finally, the Ministry of Energy and Mineral Resources and the Ministry of Forestry reached an agreement to change Gag Island from protected forest to production forest; this would allow PT Gag Nickel to continue to develop the 240-Mt laterite nickel resource, grading 1.35% nickel and 0.12% cobalt (Metal Bulletin, 2002a; U.S. Embassy, Jakarta, Indonesia, 2002e§).

Tin.—In 2001, the weak tin price on the world market had a great impact on Indonesian tin producers. Illegal mining operations on Bangka and Belitung islands nearly put Indonesia's state-owned tin mining company, PT Tambang Timah (Timah), on the verge of bankruptcy at yearend 2001. There were more than 30,000 unlicensed miners operating in 6,000 units and producing an estimated amount in excess of 45,000 t of tin, exceeding Timah's output of about 40,000 t. Unlicensed miners smuggled tin concentrates out to Southeast Asian buyers mainly via Singapore to Malaysia and Thailand. In July 2001, Bangka's regional authorities granted tin export

permits to private miners. Timah exports about 46% of the company total sales to Asia, 39% to Europe, 10% to the United States, and the domestic market accounted for 5% of sales.

The Asian market was in oversupply with tin concentrates and tin metal, and prices declined from \$5,500 per metric ton in early 2001 to about \$3,800 per ton in November 2001, which was lower than Timah production costs of about \$4,200 per ton. In an effort to stave off bankruptcy, the company suspended operations at 12 of its 21 offshore tin dredges, temporarily laid off 1,140 workers, and requested a suspension of tax prepayment owing to predicted lower profits for 2001. The company reached an agreement with tin management in the Bangka-Belitung islands to classify tin as a strategic mineral in Indonesia. The export of tin should be controlled and supervised, according to Decree No. 294/MPP/Kep/10/2001 of the Ministry of Industry and Trade, which also stated that the export of tin should only be allowed in the form of metal. Also according to the Government's decree, the export of tin can only be done by licensed exporters, and all tin exporters must obtain a license from the Central Government, while export quotas will be regulated by local administration. Later, the Ministry of Industry and Trade revised its position by banning exports on tin concentrates. Timah planned to restructure its business as its part of cost-cutting measures, including the possible sale of its mining companies Koba and PT Kutaraja Tembaga Raya. Timah also planned to reduce tin output to 34,000 t in 2002 (Metal Bulletin, 2001c, 2002b; Nikkei Weekly, 2002; Timah, 2002).

In 2001, Iluka Resources Ltd. of Australia agreed to sale its 75% stake on Koba to Malaysia Smelting Corp. The sale included a \$13.7 million cash payment and a deferred contingent component of up to \$6 million during 3 years, to be based upon London Metal Exchange tin prices. The sale was expected to be completed in April 2002. Timah planned to retain 25% of its interest in Koba (Metal Bulletin, 2002d).

Industrial Minerals

The Indonesian economy continued to struggle to recover from the 1997 financial crisis, which had a direct impact on industrial minerals demand. Domestic cement demand increased gradually and was expected to surpass the precrisis level of 27 Mt in 2002. In 2001, cement producers operated at about 65% of their output capacity, which was much higher than the 50% level in 1998. The overall construction sector remained in the doldrums, but housing construction increased sharply, consuming about 78% of domestic cement supply. The rise in worker salaries and families receiving money from Indonesian overseas workers made a significant contribution in cement demand through the renovation of private housing. Indonesia exported 9.5 Mt of cement in 2001. Exports of cement to the Philippines increased threefold from those of 2000, and the Philippines Cement Producer Association claimed that cement imports from Indonesia accounted for about 50% of the Philippines' market share and threatened the survival of local producers. The Philippine Government imposed a 1-cent-per-bag tariff on imported Indonesian cement in December 2001 (Jakarta Post, 2002a§).

Cemex SA de CV of Mexico tried to acquire an additional

51% stake of PT Semen Gresik, a limited state-owned company, from the Indonesian Government as part of its privatization program. Since 1998, Cemex had acquired a total of 25.5% shares from public auction. The company intended to pay \$1.72 per share, about \$520 million, to control a total 76.5% stake in Semen Gresik. Protests by Semen Gresik workers and lack of support from the House of Representatives led to the collapse of the deal (Financial Times, 2001a). Heidelberg Zement Group of Germany, however, acquired a total 61.7% stake in PT Indocement in 2001.

Mineral Fuels

Prior to the financial crisis of 1997, the demand for power had been expected to increase rapidly, and the Indonesian Government had decided to expand the power generation by opening up Indonesia's power market to independent power producers (IPPs). Since the financial crisis, the state-owned utility company Perusahaan Listrik Negara (PLN) had difficulty paying for the power supplied by the IPPs. PLN had more than \$5 billion in debt, and the Government did not want to take over this debt, which forced PLN to cancel some contracts with the IPPs. The IPPs suspended 27 power projects worth about \$10 billion in 1998. With the Indonesian economy growing at a modest rate in the past 2 years, there were power shortages in 28 PLN power supply areas. Except Java and Bali, other islands were experiencing the inconvenience of alternate blackouts, but Aceh and North Sumatra were the worst. Without any additional power supply, Java and Bali were expected to experience a power crisis in 2004. To overcome the electricity shortage, PLN requested the Government to provide more funds to purchase more power and to allow the IPPs to restart their stalled power projects (Petrominer, 2002c).

Coal.—In 2001, Indonesia's coal production increased to 92.5 Mt, and coal exports, to 66.5 Mt. With the domestic economic activities beginning to improve, domestic demand for coal increased by 22% to about 27 Mt. Powerplants and cement plants were Indonesia's major consumers. PLN was the biggest individual coal consumer. The state-owned company PT Batubara Bukit Asam supplied about one-third of the domestic demand, and private mines and cooperatives supplied the balance. Indonesian coal production and coal exports were expected to increase in the next several years. Indonesia signed a long-term agreement with Philippine National Power Corp. and Philippine Oil Corp. to supply an additional 3 Mt/yr of coal. About 70% of exported coal was shipped to Asian markets (U.S. Embassy, Jakarta, Indonesia, 2002a§).

After the East Kalimantan Provincial Government filed a lawsuit and won, PT Kaltim Prima Coal Co. (KPC) [jointly owned by PT Rio Tinto Indonesia (50%) and British Petroleum Amoco (50%)] agreed to divest its 51% share to local buyers. The share offer was to be based on the fair market value. The Government believed that the 100% share price should be valued between \$583 million and \$625 million; however, Solomon Smith Barney estimated that the price should be \$889 million. Finally, the Central Government and KPC agreed to value 100% of shares at \$822 million. The East Kalimantan Provincial Government and the East Kutai Regency government

offered to buy the whole 51%. KPC resisted the offer because the purchase would transfer control to local governments. Local governments planned to sue KPC and to force KPC to sell all 51% interests to them (Mining Journal, 2001d, 2002).

BHP Billiton agreed to sell its entire 80% interest in PT Arutmin Indonesia to PT Bumi Resources Tbk for \$148 million. PT Bank Mandiri provided a \$100 million loan to Bumi to cover the majority of the acquisition cost, and the remaining came from equity financing. Under the terms of its CCOW, BHP Billiton was obligated to sell at least 31% of the company interest to local investors. The Indonesian Government is entitled to a 13.5% share production under the CCOW. In 1981, PT Arutmin Indonesia signed a CCOW for a 1.26-million-hectare coal mining area in block 6, South Kalimantan, for 30 years. Initial commercial production began in 1989. In September 2000, the company relinquished parts of the area but continued to hold 70,153 hectares covering Mulia, Satui, and Senakin production areas. Coal reserves in operating areas are 100 Mt, and coal resources in the Satui and Senakin areas are estimated to be 516 Mt. Bumi Resources planned to acquire the remaining 20% interest in Arutmin from PT Bakrie Brothers Tbk. Bumi retained BHP Billiton to market 75% of the current production level (Mining Journal, 2001a, e).

PT Bukit Asam and its Malaysian investors discovered a large coal deposit in the district of Cirenti, Kuantansengingi Regency, Riau Province. The deposit contains an estimated 2.4 Gt of coal resources, of which 1.2 Gt are inferred resources, 267 Mt are measured reserves, and 891 Mt are indicated reserves (Petrominer, 2002b).

Oil and Gas.—Indonesia's oil production experienced a third consecutive year of decline in 2001 to an average of 1.45 million barrels per day (Mbbbl/d), including crude oil, natural gas liquid, and condensate. The decline in output was mainly contributed to the aging oilfields. Exports of oil also declined to 330,000 barrels per day (bbl/d) because of lower output and higher domestic demand. Indonesia consumed about 1.1 Mbbbl/d. The output of crude oil was expected to continue to decline because the Organization of the Petroleum Exporting Countries decided to reduce Indonesia's production quota by 78,000 bbl/d to 1.12 Mbbbl/d effective January 1, 2002, for 6 months. Because of security concerns, natural gas production in ExxonMobil Oil Indonesia's field decreased by 41%, and Indonesian natural gas production decreased slightly to 80 billion cubic meters in 2001. Indonesia's liquefied natural gas (LNG) exports decreased by 11.5% in 2001 to 23.9 Mt mainly to Japan, the Republic of Korea, and Taiwan. The decline reflected ExxonMobil's suspension of all three onshore gasfields in Aceh and shutdown of the Arun LNG plant in early 2001 (Petrominer, 2002d; U.S. Embassy, Jakarta, Indonesia, 2002c§, d§).

China National Offshore Oil Corp. (a Chinese state-owned company), through its subsidiary CNOOC Ltd., acquired Repsol-Yacimientos Petroliteros Fiscales SA's offshore fields in Indonesia for \$585 million in cash. The acquisition gave CNOOC most of Repsol's oilfields and gasfields. The fields produced an estimated total of 70,300 bbl/d of oil and gas, of which 80% was oil. By acquiring fields already in production, CNOOC was able to reduce its exploration costs (Asian Wall

Street Journal, 2002b).

PetroChina Ltd. (a subsidiary of the Chinese state-owned China National Petroleum Corp.) succeeded in outbidding Pertamina in acquiring Devon Energy Ltd.'s six oilfields in onshore Jambi, onshore East Java, and onshore and offshore Papua for \$216 million. Devon Energy has three fields under a production-sharing contract (PSC) and three fields under a joint-operation agreement. PetroChina believed that its share of production from these fields would increase to 22,200 bbl/d oil equivalent in 2003 from 17,000 bbl/d oil equivalent in 2001 (Petrominer, 2002f).

In August 2001, local community leaders threatened to blockade the Coastal Plain Pekanbaru (CPP) block, which was operated by PT Caltex Pacific Indonesia. The field produced about 50,000 bbl/d of oil. Caltex's PSC for the block expired on August 8, 2001. The Government approved a 12-month extension on the block to allow time to negotiate a new management agreement. The local population demanded 30% of the net profit share on the extended contract (Financial Times, 2001b). At yearend, Pertamina and the Riau Provincial Government signed an agreement, a 50-50 share, to establish a new company to operate CPP. Caltex's PSC would not be extended after its expiration in August 2002. According to the agreement, Riau Provincial Government would gain two portions; under law No. 25/1999, Riau would receive a 15% portion and a 50% share of the 15% contractor's portion (Asian Wall Street Journal, 2002a).

Because of security concerns, ExxonMobil shut down its onshore and offshore natural gas production operations in Aceh Province from March to July 2001. Political violence by Acehese separatists created safety problems for ExxonMobil's employees and contractors in the region. ExxonMobil planes were shot at, and its vehicles hijacked. The Arun LNG plant was forced to suspend production. ExxonMobil continued to produce natural gas from its North Sumatra offshore field (Petrominer, 2001i).

In the first half of 2001, the Indonesian Government offered nine oil and gas exploration blocks in the Makassar Strait, North Java Sea, and Natuna. Only eight bidders competed for six blocks—four in the Makassar Strait, one in North Java Sea, and one in Natuna Sea. In December, the Government offered 17 new oil and gas exploration blocks in eastern Indonesia, which included the three unbid blocks in the first offer. There were 11 blocks in deep seas, three blocks offshore, and three blocks onshore. The closing bid would be on July 31, 2002 (Petrominer, 2001j, 2002h).

References Cited

- Asian Wall Street Journal, 2002a, Wrestling back Sumatra: Asian Wall Street Journal, January 28-February 3, p. 9.
- Asian Wall Street Journal, 2002b, CNOOC taps energy fields: Asian Wall Street Journal, January 28-February 3, p. 8.
- Bank Indonesia, 2002, Annual report 2001: Jakarta, Indonesia, Bank Indonesia, 284 p.
- Central Bureau of Statistics, 2002, The economic growth of Indonesia in 2001: Central Bureau of Statistics, no. 7, February, 5 p.
- Financial Times, 2001a, Cemex plan to take over Indonesian cement group: Financial Times, August 18, p. 18.
- Financial Times, 2001b, Oil blockade threat from Indonesian province: Financial Times, August 7, p. 4.

- Goto, M., and Handogo, B.P., 2001, Gresik copper smelter and refinery operation update and expansion plan: Indonesia Mining Conference and Exhibition, Proceedings, Jakarta, Indonesia, November 7-8, 2001, unpaginated.
- Metal Bulletin, 2001a, Economic downturn hinders Krakatau privatization: Metal Bulletin, no. 8614, October 8, p. 19.
- Metal Bulletin, 2001b, Freeport plans appeal: Metal Bulletin, no. 8604, September 3, p. 14.
- Metal Bulletin, 2001c, Illegal mining fuels anxiety in Indonesian tin market: Metal Bulletin, no. 8602, August 23, p. 5.
- Metal Bulletin, 2001d, Indonesian aluminium smelter considers power options: Metal Bulletin, no. 8608, September 17, p. 9.
- Metal Bulletin, 2002a, BHP Billiton drops Gag Island nickel project: Metal Bulletin, no. 8645, January 31, p. 5.
- Metal Bulletin, 2002b, Indonesian tin ruling stops short of export ban: Metal Bulletin, no. 8647, February 7, p. 4.
- Metal Bulletin, 2002c, Southeast Asian mills form strategic alliance: Metal Bulletin, no. 8655, March 7, p. 14.
- Metal Bulletin, 2002d, Timah opts to retain Koba Tin stake: Metal Bulletin, no. 8663, April 8, p. 5.
- Mining Journal, 2001a, BHP Billiton sells Indonesian coal operation: Mining Journal, v. 337, no. 8657, October 26, p. 317.
- Mining Journal, 2001b, Freeport misled parliament rules court: Mining Journal, v. 337, no. 8649, August 31, p. 163.
- Mining Journal, 2001c, Indonesian decentralization: Mining Journal, v. 337, no. 8645, August 3, p. 76.
- Mining Journal, 2001d, Kaltim Prima sued: Mining Journal, v. 337, no. 8656, October 19, p. 295.
- Mining Journal, 2001e, Mining finance: Mining Journal, v. 337, no. 8662, November 30, p. 421.
- Mining Journal, 2002, Market news: Mining Journal, v. 338, no. 8676, March 15, p. 207.
- Newmont Mining Corp., 2002, Annual report—2001: Denver, Colorado, Newmont Mining Corp., 19 p.
- Nikkei Weekly, 2002, Illegal mining dents Indonesia's tin industry: Nikkei Weekly, v. 40, no. 2020, March 11, p. 18.
- Petrominer, 2001a, Antam offers its Tayan alumina project: Petrominer, v. 28, no. 7, p. 30.
- Petrominer, 2001b, Antam moves nickel processing to Japan: Petrominer, v. 28, no. 10, p. 37.
- Petrominer, 2001c, Creating problems in Puncak Jaya: Petrominer, v. 28, no. 9, p. 41.
- Petrominer, 2001d, Hunting for gold in the Kelian River: Petrominer, v. 28, no. 9, p. 40.
- Petrominer, 2001e, Newmont Minahasa produces again: Petrominer, v. 28, no. 8, p. 50.
- Petrominer, 2001f, Preparing for mine closure: Petrominer, v. 28, no. 9, p. 28.
- Petrominer, 2001g, Principal differences between the new and old law: Petrominer, v. 28, no. 11, p. 10.
- Petrominer, 2001h, Regions compete to collect revenue from mining industry: Petrominer, v. 28, no. 10, p. 34.
- Petrominer, 2001i, Stern warning for ExxonMobil: Petrominer, v. 28, no. 7, p. 27.
- Petrominer, 2001j, Tender winners and new block offer: Petrominer, v. 28, no. 12, p. 22.
- Petrominer, 2001k, Walhi vs Freeport: Petrominer, v. 28, no. 10, p. 8.
- Petrominer, 2002a, Aneka Tambang's partners postpone investment: Petrominer, v. 29, no. 2, p. 35.
- Petrominer, 2002b, Coal potentials in Riau promising: Petrominer, v. 29, no. 1, p. 27.
- Petrominer, 2002c, Electricity crisis spreads: Petrominer, v. 29, no. 2, p. 37.
- Petrominer, 2002d, Indonesia to cut its oil production by 78000 BPD: Petrominer, v. 29, no. 1, p. 25.
- Petrominer, 2002e, Invitation to mine again: Petrominer, v. 29, no. 2, p. 34.
- Petrominer, 2002f, PetroChina wins Devon oil fields tender: Petrominer, v. 29, no. 5, p. 20.
- Petrominer, 2002g, Sumbawa questions the royalty spit: Petrominer, v. 29, no. 3, p. 27.
- Petrominer, 2002h, Tendering of 17 new blocks: Petrominer, v. 29, no. 2, p. 22.
- Petrominer, 2002i, Unraveling divestments of COW & CCOW: Petrominer, v. 29, no. 4, p. 10.
- Petrominer, 2002j, A year without anarchy: Petrominer, v. 29, no. 1, p. 8.
- Poernomo, Hadi, 2001, Current and future tax direction on contract of work and general taxation as a whole: Indonesia Mining Conference and Exhibition, Presentation, Jakarta, Indonesia, November 7-8, 2001, unpaginated.
- Timah, 2002, Annual report—2001: Jakarta, Indonesia, Timah, 58 p.

Internet References Cited

- Apolo Gold Inc., 2002, Apolo Gold Inc. announces property acquisition, accessed March 12, 2002, at URL http://www.businesswire.com/cgi-bin/f_headline.cgi?bw.031102/220700362&ticker=APLL.
- Jakarta Post, 2002a (March 6), RI to file a WTO complaint against RP cement policy, accessed March 6, 2002, at URL <http://www.thejakartapost.com/yesterdaydetail.asp?fileid=20020306.K02&iREC=3>.
- Jakarta Post, 2002b (June 12), RI, S. Korea sign MOU on mining, accessed June 13, 2002, at URL <http://www.thejakartapost.com/yesterdaydetail.asp?fieldid=20020612.M03>.
- Japan International Cooperation Agency, 2002, The mineral exploration in the East Java area, accessed June 25, 2002, at URL <http://www.jica.or.id/mineral.html>.
- Ministry of Industry and Trade, 2002a, Economic indicator, accessed July 1, 2002, at URL <http://www.dprin.go.id/english/statistik/indikator.htm>.
- Ministry of Industry and Trade, 2002b, Trade balance, accessed July 1, 2002, at URL <http://www.dprin.go.id/english/statistik/indikator.htm>.
- U.S. Embassy, Jakarta, Indonesia, 2002a, Coal report—Indonesia 2001, accessed July 24, 2002, at URL <http://www.usembassyjakarta.org/econ/coal-2001.html>.
- U.S. Embassy, Jakarta, Indonesia, 2002b, Indonesian mining sector mixed news, accessed August 7, 2002, at URL <http://www.usembassyjakarta.org/econ/miningupd02.html>.
- U.S. Embassy, Jakarta, Indonesia, 2002c, Indonesian 2001 natural gas developments, accessed June 5, 2002, at URL http://www.usembassyjakarta.org/econ/natural_gas2001.html.
- U.S. Embassy, Jakarta, Indonesia, 2002d, Indonesian 2001 petroleum statistics, accessed April 30, 2002, at URL <http://www.usembassyjakarta.org/econ/coal-2001.html>.
- U.S. Embassy, Jakarta, Indonesia, 2002e, March mining update—Nickel and aluminum, accessed April 30, 2002, at URL <http://www.usembassyjakarta.org/econ/miningupdate03-02.html>.

Major Sources of Information

- Directorate General of Oil and Gas
Plaza Centris, Jl. HR. Rasuna Said
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Jakarta, Indonesia
- Directorate of Geology and Natural Resources
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TABLE 1
INDONESIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity	1997	1998	1999	2000	2001	
METALS						
Aluminum:						
Bauxite, wet basis, gross weight	thousand tons	809	1,055	1,116	1,151 r/	1,237
Metal, primary e/		216,150 2/	133,000	106,000	160,000	180,000
Chromite sand, dry basis e/		2,156 2/	4,700	6,400	1,000 r/	1,000
Copper:						
Mine, Cu content		529,121	780,780	766,027	1,012,054	1,081,040
Metal						
Smelter, primary		--	--	126,700	173,800	217,500
Refinery, primary		--	--	90,800 r/	158,400 r/	212,500
Gold, mine output, Au content 3/	kilograms	86,927	124,018	127,184	124,596	166,091
Iron and steel:						
Iron sand, dry basis		516,403	560,524	584,428	489,126	469,126
Metal:						
Ferroalloys:						
Ferronickel		49,990	42,260	46,030	50,550	51,500
Ferromanganese e/		15,000	13,000	12,000	12,000	12,000
Pig iron, direct reduced iron	thousand tons	1,600	1,640	1,740	1,820	1,480
Steel, crude e/	do.	3,800	2,700	2,890 r/	2,850 r/	2,780
Manganese, ore		889	900	--	--	--
Nickel:						
Mine output, Ni content 4/		71,127	74,063	89,100	98,200	102,000
Matte, Ni content		32,012	35,697	45,400	59,200	63,471
Ferronickel, Ni content		9,999	8,452	9,225	10,111	10,302
Silver, mine output, Ag content	kilograms	219,392	348,987	288,200	255,578	348,332
Tin:						
Mine output, Sn content		55,175	53,959	47,754	51,629	90,000 e/
Metal		52,658	53,401	49,105	46,432	53,470
INDUSTRIAL MINERALS						
Cement, hydraulic	thousand tons	26,000 e/	22,000 e/	23,925	27,789	31,100
Clays:						
Bentonite		653,823	840	5,213	5,000 e/	5,000 e/
Fireclay e/	thousand tons	2,000	1,800	1,850	1,900	1,900
Kaolin powder		1,956	8,567	21,389	15,000 e/	15,000 e/
Diamond: e/						
Industrial stones	thousand carats	23	22	23	23	23
Gem	do.	7	6	7	7	7
Total	do.	30	28	30	30	30
Feldspar		24,399	40,434	23,236	24,000 e/	24,000 e/
Gypsum		--	405	5,707	6,000 e/	6,000 e/
Iodine		83	65	74	75 e/	75 e/
Nitrogen, N content of ammonia	thousand tons	3,600 e/	3,500 e/	3,457 r/	3,617 r/	3,665
Phosphate rock		533	752	617	630 e/	600 e/
Salt, all types e/	thousand tons	680	660	650	650	680
Stone:						
Dolomite		13,411	20,115	2,907	3,500 e/	3,000 e/
Granite	thousand tons	6,138	4,801	4,107	5,941	3,975 e/
Limestone	do.	6,329	6,575	15,540 5/	16,000 5/	16,000 e/ 5/
Marble	cubic meters	2,592	142,147	702	1,000 e/	1,000 e/
Quartz sand and silica stone		636,468	144,953	140,428 5/	145,000 e/ 5/	145,000 e/ 5/
Sulfur, elemental e/		3,500	3,400	3,450	3,500	3,600
Zeolite		--	--	569	400 e/	400 e/
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Anthracite		85,165	57,741	72,795	76,000 e/	84,000 e/
Bituminous	thousand tons	55,982	61,146	72,618	76,800 e/	92,400 e/
Gas, natural:						
Gross	million cubic meters	89,630	84,333	86,863	82,334	79,470
Marketed e/	do.	50,900	48,700	49,500	45,100	44,000
Petroleum, crude including condensate	thousand 42-gallon barrels	539,752	568,159	547,610	516,070	489,460

See footnotes at end of table.

TABLE 1--Continued
INDONESIA: PRODUCTION OF MINERAL COMMODITIES 1/

e/ Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. r/ Revised. -- Zero.

1/ Table includes data available through August 30, 2002.

2/ Reported figure.

3/ Includes Au content of copper ore and output by Government-controlled foreign contractors' operations. Gold output by operators of so-called people's mines and illegal small-scale mines is not available but may be as much as 20 metric tons per year.

4/ Includes a small amount of cobalt that is not recovered separately.

5/ Cubic meters.

TABLE 2
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2001

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity e/	
Aluminum:				
Bauxite	PT Aneka Tambang (Government, 65%)	Kijang, Bintan Island, Riau	1,300	
Metal	PT Indonesia Asahan Aluminum (Nippon Asahan Aluminum Co. Ltd. of Japan, 59%; Government, 41%)	Kual Tanjung, North Sumatra	250	
Cement	PT Indocement	Cirebon and Citeureup, West Java; Tarjun, South Kalimantan	15,400	
Do.	PT Semen Andalas Indonesia	Aceh Besar	1,000	
Do.	PT Semen Baturaja (Persero)	Baturaja-Ogan Komerling Ulu, South Sumatra	1,250	
Do.	PT Semen Bosowa Maros	Kabupaten Maros, Sulawesi Selatan	2,200	
Do.	PT Semen Cibinong	Narogong, East Java	11,800	
Do.	PT Semen Gresik (Persero)	Gresik and Tubar, East Java	5,000	
Do.	PT Semen Padang (Persero)	Indarung, West Java	2,200	
Do.	PT Semen Tonasa (Persero)	Pangkep, Sulawesi Selatan	3,590	
Coal	PT Adaro Indonesia (New Hope Corp, 50%; PT Asminco Bara Utama, 40%; Mission Energy, 10%)	Paringin and Tutupan, South Kalimantan	20,000	
Do.	PT Arutmin Indonesia (PT Bumi Resources Tbk, 80%; Bakrie Group, 20%)	Mulia, Senakin, and Satui, South Kalimantan	11,000	
Do.	PT Berau Coal (PT United Tractor, 60%; PT Armadian, 30%; Nissho Iwai, 10%)	Berau, East Kalimantan	13,000	
Do.	PT Kaltim Prima Coal Co. (BP Coal Indonesia Ltd., 50%; Rio Tinto Ltd., 50%)	Samarinda, East Kalimantan	16,000	
Do.	PT Tambang Batubara Bukit Asam	Tanjung Enim and Ombilin, South Sumatra	19,000	
Copper:				
Concentrate	PT Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc. of the United States, 81.28%; Government, 9.36%; others, 9.36%)	Ertsberg and Grasberg, Irian Jaya	800	
Do.	PT Newmont Nusa Tenggara (Newmont Gold Mining Co. of the United States, 45%; Sumitomo Corp., 35%; PT Pukuafu Indah, 20%)	Sumbawa Island, West Nusa Tenggara	300	
Metal	PT Smelting Co. (Mitsubishi Materials Corp., 60.5%; PT Freeport Indonesia Co., 25%; others, 14.5%)	Gresik, East Java	210	
Gas:				
Natural	million cubic feet per day	ExxonMobil Oil Indonesia	Arun, Aceh in North Sumatra	1,700
Do.		Roy M. Huffington (subsidiary of HUFFCO Group of the United States)	Badak, East Kalimantan	1,000
Do.		Total Indonesia	Offshore of East Kalimantan	2,100
Liquefied		PT Arun LNG Co. Ltd. (Government, 55%; Mobil Oil, 30%; Japan Indonesia LNG Co., 15%)	Balang Lancang, Aceh in North Sumatra	10,000
Do.		PT Badak LNG Co. Ltd. (Government, 55%; HUFFCO Group, 30%; Japan Indonesia LNG Co., 15%)	Bontang, East Kalimantan	7,900
Gold	metric tons	Aurora Gold Ltd. (100%)	Balikpapan, Central Kalimantan	60
Do.		PT Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc. of the United States, 81.28%; Government, 9.36%; others, 9.36%)	Ertsberg and Grasberg, Irian Jaya	110
Do.		PT Kelian Equatorial Mining (Rio Tinto Ltd, 90%; PT Harita Jaya Raya of Indonesia, 10%)	Sangatta, East Kalimantan	15

See footnotes at end of table.

TABLE 2--Continued
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2001

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity e/	
Gold--Continued	PT Newmont Minahasa Raya (Newmont Mining Corp., 80%; PT Tanjung Serapung, 20%)	Manado, North Sulawesi	15	
Do.	PT Newmont Nusa Tenggara (Newmont Gold Mining Co. of the United States, 45%; Sumitomo Corp., 35%; PT Pukuafu Indah, 20%)	Sumbawa Island, West Nusa Tenggara	16	
Do.	PT Prima Lirang Mining (Billiton BV of the Netherlands, 90%; PT Prima Maluku Indah of Indonesia, 10%)	Lerokis, Wetar Island	3	
Nickel:				
In ore	PT Aneka Tambang (Government, 65%)	Pomalaa, South Sulawesi; and on Gebe Island	80	
Do.	PT International Nickel Indonesia (Inco Ltd. of Canada, 59%; Sumitomo Metal Mining Co. Ltd. of Japan, 20%; others, 21%)	Sorowako, South Sulawesi	70	
In matte	PT Aneka Tambang (Government, 65%)	Pomalaa, South Sulawesi	24	
Do.	PT International Nickel Indonesia (Inco Ltd. of Canada, 59%; Sumitomo Metal Mining Co. Ltd. of Japan, 20%; others, 21%)	Sorowako, South Sulawesi	68	
Nitrogen	PT Aseah-Aech Fertilizer (Government, 60%; other members of the Association of Southeast Asian Nations, 40%)	Lhokseumawe, North Sumatra	506	
Do.	PT Pupuk Iskandar Muda (Government, 100%)	do.	506	
Do.	PT Pupuk Kalimantan Timur (Government, 100%)	Bontang, East Kalimantan	1,010	
Do.	PT Pupuk Sriwijawa (Government, 100%)	Palembang, South Sumatra	1,440	
Petroleum, crude	thousand barrels per day	Atlantic Richfield Indonesia, Inc. (subsidiary of Arco of the United States)	Arjuna and Arimbi, offshore, West Java	170
Do.	Maxus Southeast Asia Ltd. (subsidiary of Maxus Energy of the United States)	Cinta and Rama, offshore, Southeast Sumatra	95	
Do.	Pertamina (Government, 100%)	Jatibarang, West Java, and Bunyu, offshore East Kalimantan	80	
Do.	PT Caltex Pacific Indonesia (Texaco Inc., 50%; Chevron Corp., 50%, both of the United States)	Minas, Duri, and Bangko, central Sumatra	700	
Do.	Total Indonesia (subsidiary of Compagnie Francaise des Petroles of France)	Handi and Bakapai onshore and offshore East Kalimantan	180	
Steel, crude	PT Ispat Indo	Sidoarjo, Surabaya	700	
Do.	PT Krakatau Steel (Government, 100%)	Cilegon, West Java	2,400	
Do.	PT Komatsu Indonesia Tbk	Jakarta	8	
Do.	PT Wahana Garuda Lestari	Pulogadung, Jakarta	410	
Tin:				
In ore	PT Koba Tin (Westralian Sands Ltd., 75%; PT Tambang Timah TBK, 25%)	Koba, Bangka Island	11	
Do.	PT Tambang Timah TBK (Government, 65%)	Onshore and offshore islands of Bangka, Belitung, and Singkep	60	
Metal, refined	Mentok Tin Smelter (PT Tambang Timah TBK)	Mentok, Bangka Island, South Sumatra	68	
Do.	Koba Tin Smelter (PT Koba Tin)	Koba, Banka Island, South Sumatra	14	

e/ Estimated; estimated data are rounded to no more than three significant digits.